ABSTRACT

A personal computer's (PC) microprocessor is used to provide both the physical layer (PHY) a nd media a ccess c ontrol (MAC) p rocessing functions r equired t o implement a wireless local area network (WLAN) adapter. This technique uses the polling mechanism associated with the power save (PS) functionality of WLAN protocol to relieve networking stress on the host processing system. It does this while maintaining networking integrity and packet delivery. The WLAN protocol polling mechanism is used to briefly inhibit the transfer of packets from the WLAN access point (AP) during peak periods of network traffic and/or host processor loading. Because the modulation, demodulation, and MAC functions, typically implemented in dedicated hardware on existing adapters are implemented in software running on the host PC microprocessor, other host system processes and applications can interfere with these time critical functions. Conversely, latency introduced by WLAN specific processing tasks during peak periods of network traffic may cause unacceptable delays to the other processes and applications requiring microprocessor attention. In addition to its primary stated purpose of allowing WLAN mobile stations to save power, this technique will use power save polling as a method for controlling delivery of network packets when the host is heavily loaded or when peak interrupt latencies make reliable packet delivery difficult or impossible.